CALIFORNIA OCCUPATIONAL GUIDES

Employment Development Department
State of California

AIRCRAFT PILOTS

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INTEREST AREA
MECHANICAL - TECHNICAL AND PROFESSIONAL

WHAT DOES AN AIRCRAFT PILOT DO?

AIRCRAFT PILOTS are trained professionals who fly airplanes carrying passengers, cargo, and mail. Some Pilots dust crops or take photographs of the earth.

All Aircraft Pilots perform the following tasks:

- Conduct preflight check to ensure that all gauges and equipment are in working order.
- Confer with flight dispatchers and weather forecasters.
- Plot flight plan and file it with appropriate officials.
- Operate radio equipment to contact control tower for takeoff, clearance, and arrival instructions.
- Operate plane during takeoff, flight, and landing.

Commercial Airline Pilots transport passengers and cargo, normally on fixed routes and schedules. They have full responsibility for the safety of passengers and crew. Generally, two professional Pilots are needed to operate the aircraft. The most experienced Pilot (called captain) is in command and supervises other crewmembers. The copilot (or first officer) helps and relieves the captain. A flight engineer (second officer) is rarely used because new technology eliminates the need for many of the flight tasks they perform. When the plane is in the air, it is often being flown on automatic pilot.

Agricultural Pilots fly airplanes or helicopters over farmlands at low altitude to dust or spray fields with fertilizers, fungicides, or pesticides. Agricultural Pilots also plant small fish in streams or lakes, fight forest fires, and spread seeds over fields. Precision seeding by these pilots contributes greatly to higher crop yields. Many Agricultural Pilots use Global Positioning Satellite System technology enabling them to place spray within a yard of their target.

Helicopter Pilots fly rotor-blade aircraft providing a variety of services for business, industry, and government. Specialty areas of helicopter services include agriculture, logging, utilities, law enforcement, oil and gas exploration, construction, air medical and safety, electronic news gathering, and personnel transportation for corporate, charter, or tour operations.

Photogrammetry Pilots are aerial photographers who fly at specified altitudes and speed to photograph areas of the earth's surface for mapping and other photogrammetric purposes. Photogrammetry Pilots must map their flights in detail to achieve their photographic objectives. Most often, there is a two-person crew of Pilot and photographer. Some Pilots may perform both tasks, piloting the plane and taking photographs.

WHAT SKILLS ARE IMPORTANT?

Aircraft Pilots frequently use the following skills, knowledge, and abilities:

- Transportation – Knowledge of principles and methods for moving people or goods by air, rail, sea, or road, including their relative costs, advantages, and limitations.
- Operation and Control – Controlling operations of equipment or systems.
- Control Precision – Able to quickly and repeatedly make precise adjustments to controls.
- Far Vision – The ability to see details at a distance.
- Night Vision – The ability to see under low light conditions.
- Spatial Orientation – Able to know one's location in relation to the environment or to know where other objects are in relation to one's self.

WHAT'S THE WORK ENVIRONMENT?

Piloting a plane rarely requires much physical effort. However, the stress of being constantly alert and ready to handle emergencies can be very tiring. Irregular eating and sleeping patterns due to frequent schedule changes may contribute to mental and physical fatigue. Temporary layoffs for low-seniority Pilots can occur when business is slow.

Most flying done by Agricultural Pilots is in highly maneuverable aircraft at slow speeds. Spraying must be done within a few feet of the plants or trees and only when wind velocity is low. Often the Agricultural Pilots sit in an open cockpit, vulnerable to both summer heat and winter cold and sometimes to toxic chemicals. Agricultural Pilots may travel to other parts of the country to extend their work year. Because of their comparatively low flying altitudes, Helicopter Pilots also must be continually alert for power lines, trees, bridges, and other hazards.

Union Membership

Most Airline Pilots are members of the Airline Pilots Association, International (ALPA). Others join the Allied Pilots Association or the Flight Engineers' International Association.

WHAT'S THE CALIFORNIA JOB OUTLOOK?

The following information is from the occupational projections produced by the Employment Development Department's Labor Market Information Division:

Estimated number of workers in 1998:	7,200
Estimated number of workers in 2008:	8,300
Projected Growth 1998-2008:	15.3%
Est. openings due to separations by 2008:	1,700

These figures do not include self-employment.

Aircraft Pilot employment will grow slower than average for all occupations. The figures represent the broad occupational group, Aircraft Pilots and Flight Engineers.

Trends

Employment of Airline Pilots will be very competitive as Airline Pilots are among the nation's highest paid occupations, and many Pilots lost jobs when airlines restructured in the early 1990's. Replacement openings will occur as Pilots hired during the expansion of the 1960's reach retirement age. Growing population and income are expected to stimulate the demand for air travel. It is uncertain if video-conferencing technology, corporate downsizing, and facsimile mail will reduce business travel needs.

There are currently about 500 Agricultural Pilots including owner-operators. Increased regulation of agricultural aviation and the high cost of insurance discourage newcomers. The majority of Agricultural Pilots are 48 years of age or older and more opportunities will open as they retire according to the California Agricultural Aircraft Association. Helicopter Pilots will experience slight growth as demand for services offered by helicopters increases.

Satellites have actually increased the demand for aerial photography making a slight increase in the opportunities for Photogrammetry Pilots.

WHAT DOES THE JOB PAY?

California Earnings

The occupational group, Aircraft Pilots and Flight Engineers which includes Airline Pilots, earned an average of $135,913 per year in 2000, according to

the U.S. Department of Labor's Occupational Employment Statistics Survey. They pilot and navigate the flight of multi-engine aircraft in regularly scheduled service for the transport of passengers and cargo.

The occupational group, Commercial Pilots, averaged $61,181 a year in 2001. They pilot and navigate the flight of small fixed or rotary winged aircraft, primarily for the transport of cargo and passengers.

Hours

By federal law, Airline Pilots cannot fly more than 100 hours a month or 1,000 hours a year. Most Pilots average 80 flying hours a month. However, total duty hours including time for preflight and post-flight duties, repairs, and terminal delays can exceed 150 hours a month. The work hours of Agricultural Pilots vary during the year according to seasons, weather, cycles of insects and weeds, the number of daylight hours, and wind velocity. Pilots who seed small grains fly from early morning until dusk seven days a week for periods of several weeks or months. Pilots dusting crops with hazardous chemicals normally fly the first two or three daylight hours each morning. Some Pilots have equipped their aircraft with lights and work at night.

Benefits

Usual benefits include medical and dental insurance, retirement programs, vacation, and free or reduced rates on personal and family airline travel. Many Agricultural Pilots get sick leave and health insurance but seldom receive paid vacations since their work is seasonal.

HOW DO I PREPARE FOR THE JOB?

Education and Training

Minimum educational requirements for most commercial airlines are high school graduation or two years of college. However, 95 percent of pilots hired by large commercial airlines during 1991 had four years or more of college. Pilot training is given in military or civilian flight schools. According to the ALPA, "more than half of the Pilots currently flying for U.S. airlines have had military training…however, the military are training fewer Pilots and requiring longer service commitments. You can reach your goal of becoming an Airline Pilot sooner through civilian training, much of which is geared to airline flying."

Two California community colleges offer programs in professional Aircraft Pilot and navigation: Cypress Community College and Long Beach City College. There are also 33 private schools in California that offer professional Aircraft Pilot and navigator training.

According to the ALPA, most airlines require at least 1,500 flight hours in multi-engine aircraft. Newly hired Pilots for regional airlines average over 2,000 hours. The average multi-engine flight hours for new hires at major airlines is 4,000.

Helicopter Pilots need about 1,000 hours of helicopter flight time to be competitive for jobs. Most earn those hours as flying instructors after obtaining their own Helicopter Pilot's certification.

Licensing and Certification

All Pilots paid to fly passengers or cargo must have a commercial Pilot's license with instrument ratings from the Federal Aviation Administration. Candidates must be at least 18 years old and have 250 hours or more of flying experience. They must pass a practical flight test, two written tests, and a medical examination. Airline Pilots must have an Airline Transport Pilot's license which requires 1500 hours of flying experience including instrument and night flights. Applicants must pass a written and flight test and be 23 years of age.

Agricultural Pilots must pass a written test given by the State Department of Food and Agriculture to obtain needed State licenses: Apprentice Pest Control Aircraft Pilot Certificate or Journeyman Pest Control Aircraft Pilot Certificate. They must also register with the country agricultural commissioner in each county where aerial pest control is performed. They must also serve a minimum of one year as an apprentice.

Continuing Education

Certificates and ratings for all Pilots are valid as long as they continue to pass periodic checks of their physical condition and flying skills.

Pest Control Aircraft Pilots must complete 20 hours of continuing education every two years.

HOW DO I FIND THE JOB?

Most Pilots find employment by contacting employers directly. More entry opportunities for Airline Pilots will be with the regional airlines. Pilot unions also list employment opportunities.

Photogrammetry Pilots should look in the yellow pages under Aerial Photography. The California Agricultural Aircraft Association aids Agricultural Pilots in finding employment. The Helicopter Association International provides employment services for Helicopter Pilots. Some government agencies, especially those in law enforcement, use helicopter and small plane Pilots.

California job openings can be found at various online job-listing systems including CalJOBS℠ at www.caljobs.ca.gov or at America's Job Bank at www.ajb.dni.us.

For other occupational and wage information and a listing of the largest employers in any county, visit the Employment Development Department Labor Market Information Web page at www.calmis.ca.gov. Find further job search assistance from your nearest Job Service office www.edd.ca.gov/jsloc.htm or the closest One-Stop site listed on the California WorkNet site, www.sjtcc.ca.gov/sjtccweb/one-stop.

WHERE CAN THIS JOB LEAD?

Advancement for Airline Pilots may involve moving from a small airline to a major carrier. Advancement within the same company depends largely on seniority. Flight engineers may become copilots within two to seven years and captains within 5 to 15 years. Some Pilots become check pilots, chief pilots, or self-employed. A few Pilots transfer to managerial jobs. Experienced Pilots move up the seniority list and become eligible to bid for larger aircraft, more desirable schedules, routes, or their own home base. Promotional opportunities for Agricultural Pilots include advancing to managerial positions or purchasing their own aircraft to become independent contractors or pest control operators.

OTHER SOURCES OF INFORMATION

Airline Pilots Association, International
535 Herndon Parkway
Herndon, VA 20170
(703) 689-2270
www.alpa.org

The American Society for Photogrammetry and Remote Sensing
5410 Grosvenor Lane, Suite 210
Bethesda, MD 20814
(301) 493-0290
www.asprs.org/career/career_frame.html

California Agricultural Aircraft Association
2100 Flightline Drive, #3
Lincoln, CA 95648-9443
(916) 645-9747

Federal Aviation Administration
FAA Western Pacific Region
15000 Aviation Boulevard
Lawndale, CA 90261
www.awp.faa.gov

Helicopter Association International
1635 Prince Street
Alexandria, VA 22314
(703) 683-4646
www.rotor.com

The International Society of Women Airline Pilots
2250-E Tropicana Avenue, Suite 19-395
Las Vegas, NV 89119-6594
www.iswap.org

Professional Helicopter Pilots Association of California (PHPA)
P. O. Box 7059
Burbank, CA 91510-7059
(213) 891-3636
www.phpa.org

Employment Projections by Occupation
www.calmis.ca.gov/htmlfile/subject/occproj.htm

Employment and Wages by Occupation
www.calmis.ca.gov/file/occup$/OES$.htm

RELATED OCCUPATIONAL GUIDES

Air Traffic Controllers	No. 230
Aircraft Mechanics	No. 339

OCCUPATIONAL CODE REFERENCES

SOC *(Standard Occupational Classification)*

Airline Pilots, Copilots, and Flight Engineers	53-2011
Commercial Pilots	53-2012

O*NET *(Occupational Information Network)*

Airline Pilots, Copilots, and Flight Engineers	53-2011.00

OES (*Occupational Employment Statistics*)

Aircraft Pilots and Flight Engineers	97702

DOT (*Dictionary of Occupational Titles*)

Agricultural Aircraft Pilot	196.263-010
Airline Pilot, Commercial	196.263-014
Airplane Pilot, Photogrammetry	196.263-018